

## CE 664 Transportation Economics Spring 2005 Syllabus

### **Catalog Description:**

Economic analysis of transportation projects and transportation infrastructure investment, including analysis of travel demand, benefits, costs, equilibrium, pricing, and market structure. 3 units.

Prerequisites: CE 363 or equivalent, or permission of instructor.

### **Course Objectives:**

This course will provide students with the basic concepts and tools for economic evaluation of transportation projects and related investments. Students should obtain basic skills in the analysis of travel demand and in the valuation and analysis of transportation system benefits. Students should also be able to understand different components of the costs of transportation, basic pricing principles, and how these factors affect the market for transportation infrastructure and services. Finally, students should be able to apply these concepts to analyze transportation investment decisions.

### **Class times:**

Class meets Tuesday and Thursday, 3:30-4:45 pm, in Room 310, Civil Engineering Building. Regular attendance and participation in class are expected.

### **Textbook:**

José A. Gómez-Ibáñez, William B. Tye, and Clifford Winston (editors), *Essays in Transportation Economics and Policy: A Handbook in Honor of John R. Meyer*. Washington, D.C.: Brookings Institution Press, 1999. ISBN # 0-8157-3182-5.

### **Instructor:**

Dr. Mark Hickman, Room 214B, Civil Engineering Building  
[mhickman@engr.arizona.edu](mailto:mhickman@engr.arizona.edu), (520) 626-9420. Office hours Tuesday and Thursday 12-2.

### **Course Requirements:**

The course includes one mid-term examination and a final examination. About 6-8 homework assignments, and a term paper or project, are also required during the semester. Finally, each student will be responsible for a presentation or leading a class discussion on the topic of his/her term project.

Selection of the term paper or project should be in consultation with the instructor. The following milestones are *guidelines* for completion of the project:

- February 17: 1-page description of project or research subject to instructor
- March 12: 1-page progress report to instructor
- April 9: 1-page progress report to instructor
- May 7: Final report due to instructor

### **Grading Criteria:**

25% Homework and class participation, 25% term paper, 25% mid-term exam, 25% final exam

**Course Website:** <http://www.u.arizona.edu/~mhickman/ce664.html>

**Note on Written Assignments:** Copying another person's work *without attribution, including copying of any part or the whole of computer files or material from a paper or from the internet*, is considered plagiarism. It will be prosecuted as a violation of the University of Arizona Student Code of Conduct, in accordance with the Code of Academic Integrity (<http://w3.arizona.edu/~studpubs/policies/cacaint.htm>).

## Course Outline

Topic	Reading in Text
Intro to microeconomic principles in transportation	Chapter 1, pp. 1-8
Travel demand	Chapter 2, pp.11-55
Transportation costs	Chapter 3, pp. 57-97
Pricing alternatives	Chapter 4, pp. 99-136
Project evaluation	Chapter 5, pp. 137-177
<b>Mid-term</b>	
Congestion	Chapter 6, pp. 178-221
Air quality	Chapter 7, pp. 223-255
Fuel economy and safety	Chapter 8, pp. 257-289
Transportation technology	Chapter 9, pp. 291-323
Public transit	Chapter 11, pp. 359-401
Land use	Chapter 12, pp. 403-435
Transportation and economic development	Chapter 13, pp. 437-466
<b>Final Exam</b>	

Other readings may be introduced during the semester to provide other economic and policy perspectives, particularly on the topics after the mid-term.